

4.7 Firefighter Rehabilitation



**City of Oak Point
Department of Public Safety
Fire Department**

TITLE: Firefighter Rehabilitation

SECTION/TOPIC: General Operations

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APPROVED BY:

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These SOPs/SOGs are based on FEMA guidelines FA-197

1.0 PURPOSE

Purpose:

To ensure that the physical and mental condition of personnel operating at the scene of an emergency or training exercise does not deteriorate to a point that affects the safety of each crew member or jeopardizes the safety and integrity of the operation.

2.0 SCOPE

This SOP/SOG pertains to all personnel in this organization.

3.0 POLICY/GUIDELINES & INFORMATION

Procedure:

This procedure shall apply to all emergency operations and training exercises where strenuous physical activity or exposure to heat or cold occurs.

Responsibility:

INCIDENT COMMANDER: The Incident Commander shall consider the circumstances of each incident and make adequate provisions early in the incident for the rehabilitation of all personnel operating at the scene. When warranted, the Incident Commander shall designate a Rehabilitation Officer and a Rehabilitation Sector, including its location.

REHABILITATION OFFICER: The Rehabilitation Officer shall be selected from Fire Company Officers or qualified EMS personnel with the minimum EMS level of Paramedic. The Rehabilitation Officer's responsibilities shall include: wearing of the Rehabilitation Officer vest; designating the location of the Rehabilitation Sector if the Incident Commander has not already done so; securing and providing the necessary resources for rehabilitation; maintaining accountability; remaining with the Rehabilitation Sector at all times; and serving as liaison with EMS personnel and the Auxiliary.

OFFICERS: All officers shall maintain an awareness of the condition of each crew member operating within their span of control and ensure that adequate steps are taken to provide for each member's safety and health, including monitoring for signs of heat stress. The command structure shall be utilized to request relief and the reassignment of fatigued crews. Officers shall ensure that their company is properly checked in with the Rehabilitation Officer or designated staff.

PERSONNEL OPERATING ON SCENE: During an emergency incident or training evolution, all personnel operating on scene shall be encouraged to drink water and activity beverages. All personnel shall advise their supervisor when they believe that their level of fatigue or exposure to heat or cold is approaching a level that could adversely affect themselves, their crew, or the operation in which they are involved. Personnel shall also remain aware of the health and safety of other members of their crew and promptly inform the company officer when crew members require rehabilitation or relief from assigned duties.

REHABILITATION SECTOR PERSONNEL (Auxiliary): The Rehabilitation Sector shall consist of the Rehabilitation Officer, all non-firefighters, and any EMS personnel assigned by command staff. Rehabilitation Sector Personnel shall report directly to the Rehabilitation Officer. Their responsibilities shall include check vital signs, monitoring for heat stress and other medical issues, and providing treatment and transportation to medical facilities as required. Rehabilitation Sector Personnel shall inform the Rehabilitation Officer when personnel require an extended period of rehabilitation or transportation to a medical facility.

ESTABLISHMENT OF REHABILITATION SECTOR:

The Incident Commander will establish a Rehabilitation Sector and designate a Rehabilitation Officer when conditions indicate that rest and rehabilitation are needed

for personnel operating at an incident scene or training evolution. Rehabilitation should be considered during the initial planning stages of an emergency response or drill. However, the climatic or environmental conditions should not be the sole justification for establishing a rehabilitation area. Any activity/incident that is large in size, long in duration, and/or labor intensive will rapidly deplete the energy and strength of personnel and therefore merits consideration for rehabilitation.

LOCATION: The Incident Commander or Rehabilitation Officer shall designate the location of the Rehabilitation Sector based on the following site characteristics:

- **It should be sufficiently removed from the operation such that personnel may safely remove their turnout gear and SCBA.**
- **It should provide suitable protection from the prevailing environmental conditions. During hot weather, it should be in a cool, shaded area. During cold weather, it should be in a warm, dry area.**
- **It should be free of exhaust fumes from apparatus, vehicle, or equipment (including those operating in the Rehabilitation Sector).**
- **It should be large enough to accommodate multiple crews, based on the size of the incident.**
- **It should be easily accessible by EMS units for support and transport.**
- **It should be located away from spectators and media whenever possible.**

RESOURCES: The Rehabilitation Officer (or Logistics Officer in larger incidents) shall secure all necessary resources required to adequately staff and supply the Rehabilitation Sector. The supplies may include those listed below:

1. Fluids - water, activity beverage, ice.
2. Food - soup, broth, or stew in hot/cold cups.
3. Cooling - water supply and chairs for active cooling by forearm immersion.

4. Medical - blood pressure cuffs, stethoscopes, oxygen administration devices, cardiac monitors, intravenous solutions, thermometers, and check sheets.
5. Clothing - dry firefighting gloves and hoods, shirts, winter hats.
6. Other - shelter, fans, tarps, lighting equipment, and any other equipment needed.
7. Mutual aid - additional staffing and vehicles as needed through Command.

PROCEDURES/OBJECTIVES:

COOLING: A primary goal of rehabilitation should be the restoration of each firefighter's core body temperature. The most effective method of doing so is active cooling through forearm/hand immersion for at least 10 minutes. If equipment is available, this is the preferred method of cooling. Other methods involve passive cooling through hydration, removal of turnout gear, and rest.

HYDRATION: A critical factor in the prevention of heat injury is the maintenance of water and electrolytes. Fluids must be replaced during training and emergency incidents. During heat stress, personnel should consume at least one quart of water per hour. The re-hydration solution should be a 50/50 mixture of water and a commercially prepared activity beverage and administered at about 40oF. Re-hydration is important even during cold weather operations where, despite the outside temperature, heat stress may occur during firefighting or other strenuous activity when protective equipment is worn. Alcoholic, caffeinated, and carbonated beverages should be avoided before and during heat stress because both interfere with the body's water conservation mechanisms.

NOURISHMENT: The department may provide food at the scene of an extended incident when units are engaged for three or more hours. A cup of soup, broth, or stew is highly recommended because it is digested much faster than sandwiches and fast-food products. In addition, foods such as apples, oranges, and bananas provide supplemental forms of energy replacement. Fatty and/or salty foods should be avoided.

REST: The two air bottle rule, or 45 minutes of work time without SCBA (e.g. grass fires or exterior overhaul), is recommended as an acceptable level prior to mandatory rehabilitation.

Personnel should re-hydrate a minimum of eight ounces while SCBA cylinders are being changed. Firefighters having worked for two full 30-minute rated bottles, or for 45 minutes, shall be immediately placed in the rehabilitation area for rest and evaluation. In all cases, the objective evaluation of a firefighter's fatigue level shall be the criteria for rehabilitation time. Rest shall not be less than ten minutes and may exceed an hour as determined by the Rehabilitation Officer. If needed, this may be accompanied by at least 10 minutes of active cooling. Crews shall not be released from the Rehabilitation Sector until they are adequately rested, evaluated, and/or released by the Rehabilitation Officer.

RECOVERY: Personnel in the rehabilitation area should maintain a high level of hydration. They should not be moved from a hot environment directly into an air conditioned area because the body's cooling system can shut down in response to the external cooling. An air-conditioned environment is acceptable after cool-down period at ambient temperature with sufficient air movement. Certain drugs impair the body's ability to sweat and extreme caution must be exercised if the firefighter has taken antihistamines such as Actifed or Benadryl, or has taken diuretics or stimulants.

MEDICAL EVALUATION: EMS should be provided and staffed by the most highly trained and qualified personnel on the scene. They shall evaluate vital signs, examine personnel, and make proper disposition (return to duty, continued rehabilitation, or medical treatment and transport to medical facility). Continued rehabilitation should consist of additional monitoring of vital signs, providing rest, and providing fluids for re-hydration. EMS personnel shall be assertive in an effort to find potential medical problems early.

1. Heart Rate, Temperature, and CO Saturation - EMS personnel shall assess the following vitals of all personnel entering the Rehabilitation Sector:

- Heart Rate - The heart rate should be measured for 30 seconds as early as possible in the rest period. If a firefighter's heart rate exceeds 120 beats per minute, and respirations are greater than 20 breaths per minute an oral temperature should be taken.
- Temperature - If the firefighter's temperature exceeds 100.6 F he/she should not be permitted to wear protective equipment. If it is below 100.6 F and the heart rate remains above 120 beats per minute, rehabilitation time should be increased. If the heart rate is less than 110 beats per minute, the chance of heat stress is negligible.

On entry any rescue fire personnel with any of the following should be sent immediately to the treatment area of rehab

- A heart rate of greater the 120 BPM
- A systolic BP of greater than 200 mm/Hg
- A systolic BP of less than 90 mm/Hg
- A diastolic BP of greater than 110 mm/Hg
- Any Traumatic injury

No fire/rescue personal should be returned to active duty on scene if after 20 minutes of rest if he/she presents with:

- A pulse of greater than 100 BPM
- A systolic BP of greater than 160 mm/Hg
- A systolic BP of less than 100 mm/Hg
- A diastolic BP of greater than 90 mm/Hg

Rest must continue until expectable vital readings are obtained

2. Documentation - All medical evaluations shall be recorded on standard forms along with the firefighter's name and complaints, and should be signed, dated, and timed by the Rehabilitation Officer or his/her designee.

WHO MUST REPORT TO THE REHABILITATION SECTOR:

WORKING INCIDENTS: Upon completion of an assignment in the hot zone, personnel shall report to the Rehabilitation Sector prior to requesting or undertaking additional assignments. The crew shall first obtain their passport from the Accountability Officer and then report to the Rehabilitation Officer or his or her designee. Crew members shall undergo a mandatory rest and recovery period if they have used two full 30-minute air cylinders, if they have worked 45 minutes, or if command staff, a company officer, or a senior firefighter in charge of a crew directs the crew members to do so. Personnel shall not report back to the manpower pool unless they have been evaluated and released by the Rehabilitation Sector.

LIVE FIRE TRAININGS: The above standards for working incidents shall apply to live fire trainings with the following exception. All working crews shall report to the

Rehabilitation Sector upon completion of a working evolution, rather than after two full 30-minute air cylinders or 45 minutes of work time.

OTHER TRAININGS AND ACTIVITIES: The need to establish a Rehabilitation Sector will be determined by the Training Officer and Command staff prior to commencement of non-live-fire trainings or activities. Factors that may influence the determination include environmental conditions, tasks performed, use of SCBA, and duration of training. If a Rehabilitation Sector is required for the training activities, the objective evaluation of a participant's fatigue level shall be the criterion for a mandatory rest and recovery period. Upon completion of a training evolution or after a maximum of 45 minutes of working time, all personnel will be evaluated for a mandatory rest and recovery period by Rehabilitation Sector Personnel, Officers, or Command staff. Any personnel requiring a rest and recovery period will be evaluated by Rehabilitation Sector Personnel staff before resuming participation in the training session.

ACCOUNTABILITY: Personnel reporting to the Rehabilitation Sector shall enter and exit as a crew. If a crew member is taken out of service, this shall be conveyed to Command. The remaining crew members shall report to the manpower pool for their next assignment. Crews shall not leave the Rehabilitation Sector until authorized to do so by the Rehabilitation Officer, or designee.